The Presidential Election and the Stock Market in Taiwan*

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Investors adjust their investment behaviors according to various political events. Presidential election is considered the most powerful political event. This study examines three Taiwanese presidential elections after the year 2000 in order to investigate the existence of short-term (bull-run election) and long-term (election cycle) effects as well as the myth regarding the market favoring a particular party (The Kuomintang). The findings indicate that there is an election cycle in the Taiwanese presidential election, but there is no proof for a bull-run election and no evidence for the market's preference.

JEL Codes: D72, G14

1. Introduction

History has demonstrated the fact that politics and economy are intertwined. Political events usually have a great impact on the financial market. In many cases, the market fluctuates because of political announcements such as regulation promulgation, law amendments, or national elections. Pantzailis et al., (2000, p.1576) argued that political elections are particularly important among the many kinds of political events for several key reasons. First, elections provide voters (and investors) with an opportunity to influence the course of economic policies; second, elections attract the attention of media, pollsters, and the process through which political and financial analysts filter information between politicians and the public disseminates information to the financial market; third, financial-market participants revise their prior probability distributions of policy implementations and the resulting economic effects as the election outcome becomes certain.

Among the many types of election events, presidential elections are considered to have the greatest influence on the stock market; therefore, many researchers have devoted time to related studies. The researchers who are interested in the presidential elections and stock market examined either short-term or long-term effects. The short-term effects were stock returns in the days and weeks surrounding presidential elections (e.g. Niederhoffer et al. 1970; Pantzailis et al. 2000); and the long-term effects were mostly called “the presidential election cycle” which investigated the pattern stock markets showed in response to presidential elections (e.g. Allvine and O’Neill 1980; Huang 1985).

After the economic takeoff of the 1970s, and the transformation from an agricultural society into an industrial and commercial society, Taiwan experienced the political democratization of the 1990s. This period was the transition from a totalitarian atmosphere...
regime into a free and democratic country. Although the first direct presidential election was held in 1996, most people consider the 2000 presidential election which has marked the fledgling democracy's first peaceful transfer of power, after over half a century's rule by the Kuomintang (KMT) party-state apparatus in Taiwan. Did Taiwan’s presidential elections have influence on the stock market as the literature demonstrated in other countries? This study examines three Taiwanese presidential elections after the year 2000 both in the short-term and the long-term in order to answer this question.

This paper is organized as follows: first, a literature review regarding the relationship between presidential elections and the stock market; second, the outline of the research design; third, research findings and discussion, and finally, conclusions and a summary of the implications of this research.

2. Literature Review

A review of the literatures shows that scholars have used several indicators to investigate the relationship between presidential elections and the stock market. There are three most commonly used indicators being identified and summarized in this section.

2.1 Presidential Election and Stock Index or Stock Return

Many previous studies looked at the stock index to examine election influence on the stock market. Niederhoffer et al. (1970) analyzed the Dow-Jones Index (D.J.I.) surrounding Presidential Election Day from 1900 to 1968 in the United States (U.S.). They found that the market was ebullient during the weeks preceding and following Election Day. Also, their findings showed that the traditional Wall Street belief that the market prefers Republicans was proved in accordance with market movements surrounding Election Day, but there was no systematic difference in the performance of the market during Republican or Democratic administrations. Niederhoffer et al. (1970) covered both short-term and long-term effects of presidential elections. Although they only used the simple D.J.I. as indicator, their findings inspired many studies in this topic.

Following Niederhoffer et al. (1970), Allvine and O’Neill (1980) studied the stock market returns and the presidential election cycle. They observed Standard & Poor’s 400 monthly price movement from 1900 to 1979 and found a four-year pattern during that period. They also examined the four-year cycle in stock prices relative to the quadrennial presidential election. Their findings illustrated a clear relationship between stock returns and presidential elections. On the other hand, Huang (1985) examined common stock returns over the four-year election cycle and over different administrations. His study indicated that the four-year pattern is hard to ignore and the cycle is more pronounced in more recent periods. In addition, when Huang (1985) tested the persistent myth that “the market prefers Republicans”, the result surprisingly showed that the returns were not significantly different in most cases.

These studies used either stock index or investment returns to investigate presidential election cycle. They all challenged the “random walk in Wall Street” assumption and argued that stock prices are affected by presidential elections.
However, all of these previous studies focused on the U.S. Presidential Election.

2.2 Presidential Election and Abnormal Return

Based on market efficiency or rational expectation, Fama (1970) developed a model for the adjustment of stock prices to new information, and Brown and Warner (1980) provided a detailed discussion about event study methodology in their publication in 1980. Event-study method provides a good measure to estimate the influence of new information on stock market value. A major concern in the event study method has been to assess the extent to which security price performance around the time of the event has been abnormal—that is, the extent to which security returns were different from those which would have been expected, given the model determining equilibrium expected return (Brown and Warner 1980, p. 205). In short, event-study method compares the realized return to the expected return of stock price of a firm to capture the abnormal effects around a specific event, which economists called abnormal return (or excess return). Cumulative abnormal return (CAR) is a common variable used in event-study research (e.g. Chan et al. 1990; Doukas and Swizer 1992; Kelm 1995, etc.) as the measurement for stock market response to new information, such as a merger, advertisements and new product announcements. Although event-study method is widely used in finance, economics and accounting research, it is relatively less used in evaluating the impact of political events. The studies that used event study method focused on three applications of the method: first, to evaluate financial impact of presidential or national elections (e.g. Pantzalis et al. 2000; Hsu and Yu 2005); second, to examine the pass or amendment of financial or tax regulations (e.g. Ellert 1976; Evans et al. 1999; Ellison and Mullin 1995; Wang et al. 2005), and third, to understand the announcement of public policy (e.g. Whinston and Collins 1992; Hung 2009).

Pantzalis et al. (2000) investigated the behavior of stock market indices across 33 countries around political election dates during the sample period 1974 to 1995. They found a positive abnormal return during the two-week period prior to the election week. Moreover, the positive reaction of the stock market to elections is shown to be a function of a country’s degree of political, economic and press freedom, and a function of the election timing and the success of the incumbent in being re-elected. Hsu and Yu (2005) examined the stock market returns of nine elections between 1992 and 2004 in Taiwan. Their results showed that political elections created short-run positive abnormal return before elections, which indicated that the election bull-run does happen in Taiwan’s elections. In addition, they also found that the abnormal returns are even significantly higher when an incumbent government loses. This finding is consistent with what Pantzalis et al. (2000) found in their study: strong positive abnormal returns leading to the elections being lost by the incumbent government.

The relevant literature demonstrates that empirical studies concerning the relationship between presidential elections and the stock market have been ongoing since 1970. The indicators prior researchers have chosen include stock index, stock returns, and abnormal returns. There is no study examining the presidential election cycle in Taiwan, nor a study investigating the effects of the 12th presidential election in 2008 which brought the KMT back to power. The purpose of this study is to examine three presidential elections after the year 2000 in Taiwan for both the
presidential election cycle and election bull-run issues by using the different indicators mentioned in the previous literatures.

3. Methodology

3.1 Research Questions and Hypotheses

There are three research questions in this study. The first is whether there are election cycles in the Taiwanese presidential election. Following Allvine and O’Neill (1980), the most common stock index, TAIEX (Taiwan Stock Exchange Corporation Weighted Index) is used to examine the appearance of election cycle. Therefore, the first research hypothesis is:

\[ H_1: \text{There is an election cycle in Taiwanese presidential elections.} \]

The second research question is whether or not there is a bull-run around Taiwanese presidential election day. There are two indicators used in finding an election bull-run: stock returns (Allvine and O’Neill 1980; Huang 1985) and CAR (cumulative abnormal returns) (Pantzalis et al. 2000; Hsu and Yu 2005). The second hypothesis is:

\[ H_2: \text{There is an election bull-run in Taiwanese presidential elections.} \]

Finally, Taiwan has had a two-party political system since the year 2000. Similarly to the U.S. myth that the market favors Republicans, in Taiwan there is a myth that the market favors the “blue" party. The study examines this myth as well. Thus, the third hypothesis is:

\[ H_3: \text{The market favors the KMT in Taiwanese presidential elections.} \]

3.2 Data

Data is retrieved from two databases: one is the Taiwan Economic Journal (TEJ) database, which provides stock index and return; the other one is the Taiwan stock exchange database. In addition, TEJ provides an event-study method module to calculate average abnormal returns (AAR) and CAR in various models. The main approach selected in this study is the ordinary least square (OLS) model.

Daily abnormal return is calculated to indicate a bull-run election. The estimated period is 200 days to 31 days before the election date, denoted (-200, -31). The event period is 30 days before and after the election date, denoted (-30, +30). Moreover, only those stocks which have more than 100 days trading records in the estimated period are included in the calculation. The election dates and sample size for the three elections are shown in table 1. As the voting date has always been on Saturday for the convenience for voters; and the stock market is closed on Saturday, the actual event date in the model calculation is the subsequent Monday following the voting date.
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Table 1: Sample size for three presidential elections

<table>
<thead>
<tr>
<th>Term of President and Vice-President Election</th>
<th>Election Date</th>
<th>Sample size (companies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10th term</td>
<td>2000-03-20</td>
<td>418</td>
</tr>
<tr>
<td>11th term</td>
<td>2004-03-22</td>
<td>644</td>
</tr>
<tr>
<td>12th term</td>
<td>2008-03-24</td>
<td>707</td>
</tr>
</tbody>
</table>


4. Findings and Discussions

4.1 Election Cycle

Figure 1 charts the monthly price movement of TAIEX, in which solid lines indicate presidential election’s month and dotted lines indicate the “midterm” month (two years after the presidential election). There are no obvious upward or downward trends but many fluctuations in this ten-year period. Figure 1 shows that that there is an upward trend a few months before the election; whereas there is a downward trend after the election.

* Figure 1: TAIEX from 1998 to 2010

* Taiwan Stock Exchange Capitalization Weighted Stock Index, TAIEX, 1966=100.
Source: Taiwan Economic Journal (TEJ) database

Besides the fluctuation of the TAIEX, Table 2 and Figure 2 summarize annual returns on the TAIEX by the four-year period in presidential election cycle. The annual returns over the decade demonstrate the existence of the presidential cycle in Taiwan. Except for two years before the election in 2008, there is a clear pattern of a presidential cycle: annual return was negative in the two years prior to the election, positive in the year before the election, negative (or worst) in the year immediately
after the election and positive in the second year following the election. However, there is no doubt that the economic tsunami in 2008 contributed to the very negative annual return in the years following 2008 (-28.5%) and the high rise of it in the two year after the election (57.9%). However, there is an observable pattern in Table 2 and Figure 2 of presidential cycle.

Table 2: Return on TAIEX over Presidential Cycle*

<table>
<thead>
<tr>
<th>Presidential Election</th>
<th>Two Years Before Election</th>
<th>Year Before Election</th>
<th>Year After Election</th>
<th>Second Year After Election</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>-21.5%</td>
<td>22.1%</td>
<td>-33.9%</td>
<td>7.4%</td>
</tr>
<tr>
<td>2004</td>
<td>-24.1%</td>
<td>38.7%</td>
<td>-11.1%</td>
<td>7.8%</td>
</tr>
<tr>
<td>2008</td>
<td>18.7%</td>
<td>7.8%</td>
<td>-40.5%</td>
<td>57.9%</td>
</tr>
<tr>
<td>Average</td>
<td>-8.9%</td>
<td>22.8%</td>
<td>-28.5%</td>
<td>24.4%</td>
</tr>
</tbody>
</table>


Is there a statistical difference between the annual returns in the four-year election cycle? In order to answer this question, the t-test is used to test the differences between average annual returns before and after elections. Table 3 lists the t-test results. The results indicate that there is no statistical significance between the averages of two years before and after election (t-value = 0.51), but it does show a significant difference (t-value = 4.07) at the 0.5 level when comparing the difference of annual returns between one year preceding and following presidential elections.
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Table 3: t-test for annual return difference during election cycle

<table>
<thead>
<tr>
<th></th>
<th>Two years and One year and</th>
<th>Difference</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>before election</td>
<td>second year after election</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>average annual return</td>
<td>6.94</td>
<td>-2.06</td>
<td></td>
</tr>
<tr>
<td>standard deviation</td>
<td>25.07</td>
<td>35.66</td>
<td>9.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>year before election</th>
<th>year after election</th>
<th>Difference</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>annual return</td>
<td>22.83</td>
<td>-28.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>standard deviation</td>
<td>15.45</td>
<td>15.42</td>
<td>51.32</td>
<td>4.07</td>
</tr>
</tbody>
</table>

Note: ** denotes p<0.05.

It is interesting to compare the cycle of Taiwan with that of the U.S. Allivine and O’Neill (1980) analyzed 7 U.S. presidential elections from 1948 to 1978. The overall pattern is that the best return happened in the two years before an election, the second best in the year before an election, but the returns are significantly worse one and two years after an election. Comparing the presidential election cycle in these two countries, the same finding is that the worst return happened in the year following an election. In Taiwan, the best return happens in the year before an election but in the U.S. for the two years before an election. (see Table 4).

Table 4: Taiwanese vs. U.S. presidential election cycle

<table>
<thead>
<tr>
<th>Country</th>
<th>Two Years Before Election</th>
<th>Year Before Election</th>
<th>Year After Election</th>
<th>Second Year After Election</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiwan (1999-2010)</td>
<td>The Second Worst</td>
<td>The Second Best</td>
<td>The Worst</td>
<td>The Best</td>
</tr>
</tbody>
</table>

Source: Allivine and O’Neill (1980: 53)

The fact that the worst return happened in the year after an election for both countries implies that the government has no intention of creating positive information for the stock market or economics just after election. However, in both Taiwan or in the U.S., the performance of the stock market will not be the worst in the year before an election. The possible reason is that the government does not want to make investors lose confidence in the incumbent government.
4.2 Election Bull-Run

There are two measures for an election bull-run in this paper: changes of TAIEX and abnormal returns.

According to Niederhofer et al. (1970), the existence of a bull-run election could be identified by a rise of stock index one week before an election. Table 5 demonstrates that the market rose in two of the three elections (2004 and 2008) but went down in the one of 2000. Therefore, by the standards of Niederhofer et al. (1970), there is no evidence for a bull-run election. Taking the analysis further, Table 5 also presents the TAIEX on the day before and after as well as the week and the month after the three elections (as indicated in the column (2), (3), (4), and (7)). No matter we look a day preceding or following the elections (two down and one up) or a week following the elections (two up and one down), there is no consistent results to signify a bull-run election. But the changes in the TAIEX during a month following the elections (as indicated in column (8)) are all positive. Still, by analyzing fluctuations of the TAIEX around these three elections, there is no consistent pattern to designate an election bull-run.

Table 5: TAIEX Activity around Election Day

<table>
<thead>
<tr>
<th>President Election Date</th>
<th>(1) TAIEX Week before Election</th>
<th>(2) TAIEX Day Before Election</th>
<th>(3) TAIEX Day Following Election</th>
<th>(4) % Change in TAIEX During Week Before Election</th>
<th>(5) % Change in TAIEX During Week Following Election</th>
<th>(6) % Change in TAIEX During Month Following Election</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000/3/20</td>
<td>9,430</td>
<td>8,763</td>
<td>8,536</td>
<td>9,808</td>
<td>-7.1</td>
<td>14.9</td>
</tr>
<tr>
<td>2004/3/22</td>
<td>6,800</td>
<td>6,815</td>
<td>6,360</td>
<td>6,474</td>
<td>0.2</td>
<td>1.8</td>
</tr>
<tr>
<td>2008/3/24</td>
<td>8,161</td>
<td>8,525</td>
<td>8,865</td>
<td>8,573</td>
<td>4.5</td>
<td>-3.3</td>
</tr>
</tbody>
</table>

Source: Taiwan stock exchange (http://www.twse.com.tw/)

Next, abnormal returns calculated by the OLS model of event-study method were used to determine the exhibition of a bull-run election. The distribution of AAR of all companies in a 30 day sample before and after election dates are shown in Figure 3. The trends of the election of 2000 and 2008 are very similar, as they are negative before the election and then rising after the election date. On the other hand, the AAR of the election of 2004 was negative mostly during this period of time. Figure 4 shows the fluctuation of abnormal return about one month before and after the election date but in weekly form. One of the possibilities to cause the similarity of
trends in 2000 and 2008 might come from the fact that the incumbent governments lost in both elections.

**Figure 3: Daily Average Abnormal Return Around Presidential Election Date(-30, +30)**

Moving beyond the graphs, the sign and significance of CAR are the most common indicators to show the response of a market to new information. Table 6
Hung demonstrates CAR for three event windows: 61 days (-30, +30), 11 days (-5, +5) and three days (-1, +1). CARs have no consistent results in neither three elections or in three event windows. CARs were all positive in three event windows in the 2008 election, but were all negative in the 2004 election. For the 2000 election, the results were mixed: there was negative CAR in the 11-day window, but positive in the 3-day and the 31-day windows. Therefore, there is no evidence for bull-run election in these three presidential elections. It is worth mentioning again that the patterns of 2000 and 2008 are very similar, and the CARs were all negative in the election of 2004 when the incumbent party continues to hold power. Moreover, it is believed that the shooting scandal and controversial election result of the 2004 also contributed to the downturn of the stock market.

Table 6: Daily Cumulative Abnormal Returns around Election Date

<table>
<thead>
<tr>
<th>Election</th>
<th>CAR (-30, +30)</th>
<th>CAR (-5, +5)</th>
<th>CAR (-1, +1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2.9358 ***</td>
<td>-3.1684 ***</td>
<td>1.7734 ***</td>
</tr>
<tr>
<td>2004</td>
<td>-14.0223 ***</td>
<td>-8.8669 ***</td>
<td>-5.782 ***</td>
</tr>
<tr>
<td>2008</td>
<td>11.7929 ***</td>
<td>1.9147 ***</td>
<td>0.4124 **</td>
</tr>
</tbody>
</table>

*p<0.1, ** p<0.05, *** p<0.01

4.3 Market’s Party Preference

Does the market favor a particular party in Taiwan? To answer this question, the TAIEX and abnormal returns were organized by the winner’s party as shown in table 7. The long-existing market myth is that the market favors the KMT. If only looking at CAR (-5, +5), this myth seems to be supported. However, CAR (-30, +30) does not support the argument nor does the TAIEX and AAR a week before election. Therefore, the results do not support this market myth that the stock market favors “the KMT (blue)” rather than “the DPP (green)”.

Table 7: Market Activity Around Presidential Election by Winner’s Party

<table>
<thead>
<tr>
<th>Election Date</th>
<th>Winner’s Party</th>
<th>% Change in TAIEX During Week Before Election</th>
<th>AAR Week Before Election</th>
<th>CAR (-5, +5)</th>
<th>CAR (-30, +30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-03-20</td>
<td>DPP</td>
<td>Down</td>
<td>Negative</td>
<td>Negative</td>
<td>Positive</td>
</tr>
<tr>
<td>2004-03-22</td>
<td>DPP</td>
<td>Up</td>
<td>N/A</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>2008-03-24</td>
<td>KMT</td>
<td>Up</td>
<td>N/A</td>
<td>Positive</td>
<td>Positive</td>
</tr>
</tbody>
</table>

Note: N/A means that the number is not statistically significant at 0.5 level.
5. Conclusions and Future Research Suggestions

The three conclusions drawn from the research findings are as follows:

First, there is an election cycle in Taiwanese presidential elections. The election cycle pattern is: the second worst (two years before election), the second best (year before election), worst (year after election), and the best (second year after election). Comparing the presidential election cycle in Taiwan and with the U.S., although the pattern is not all the same, the worst returns both happen in the year after the election, which is consistent with the argument of political business cycle theory.

Second, there is no evidence for a bull-run election in the Taiwanese presidential election. Neither TAIEX nor abnormal return could provide evidence for a bull-run election in the three elections held from 2000 to 2008. But the behaviors of abnormal returns were similar for the 2000 and 2008 elections, which signify that the loss of the incumbent party contributes to the movement of the stock market. The results are not consistent with the study of Hsu and Yu (2005). This is partly because this study includes presidential elections only, whereas Hsu and Yu’s (2005) study includes also legislative and major elections. In addition, Hsu and Yu’s study did not include the 2008 presidential election.

Last, the myth that the market favors the KMT could not be supported in this study according to the indicators of the TAIEX and CARs. Contrary to the traditional market belief, the market did not show preference towards any particular party according to the indicators used in this study.

The limitation of this research is that the time frame is relatively short. As mentioned earlier, the direct vote for the Taiwanese presidential election started in 1996, and this study includes only three presidential elections from 2000 to 2008. Therefore, it is hoped that there will be studies following the future elections in Taiwan in both the election cycle and bull-run election issues. Regarding market myth issues, some studies focusing on the market response of presidential campaigns or administration could also be considered. Future studies may also benefit from comparing these findings with other countries, especially those nearby such as South Korea or Japan.

Endnotes

1. The TAIEX weighted index is made up of all the stocks in the Taiwan Stock Exchange and each is given a weight based on its market capitalization.

2. The color that represents the KMT is blue; while green represents the Democratic Progressive Party (DPP).

3. In the 2004 election, on March 19, 2004, just a day before voting, President Chen Shui-bian and Vice-President Annette Lu, the candidates of the Democratic Progressive Party, were both shot while campaigning in Tainan, a southern city of Taiwan. For the election result, President Chen and Vice-President Lu were re-elected by a margin of 0.22% of valid votes.
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Hung, LC 2007, ‘Market entry and market value: linking biopharma innovation to value creation’, PhD thesis, University of Texas at Dallas, USA.


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